



## National Program of Cancer Registries Education and Training Series

How to Collect High Quality  
Cancer Surveillance Data

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NAACCR Administers NPCR-Education Contract for the Centers  
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Awarded in 2001

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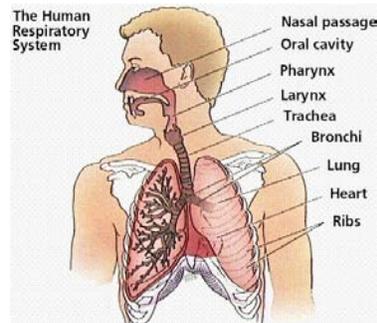


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# Lung Anatomy

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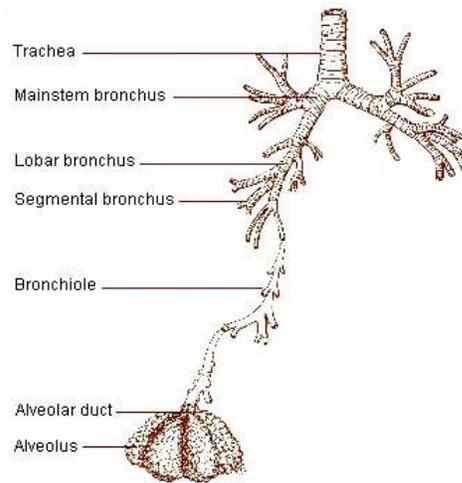
# Respiratory System



The lungs are part of the body's respiratory system. The respiratory system is divided into two parts: the upper and the lower. This presentation will focus on the lungs, which are in the lower respiratory tract.

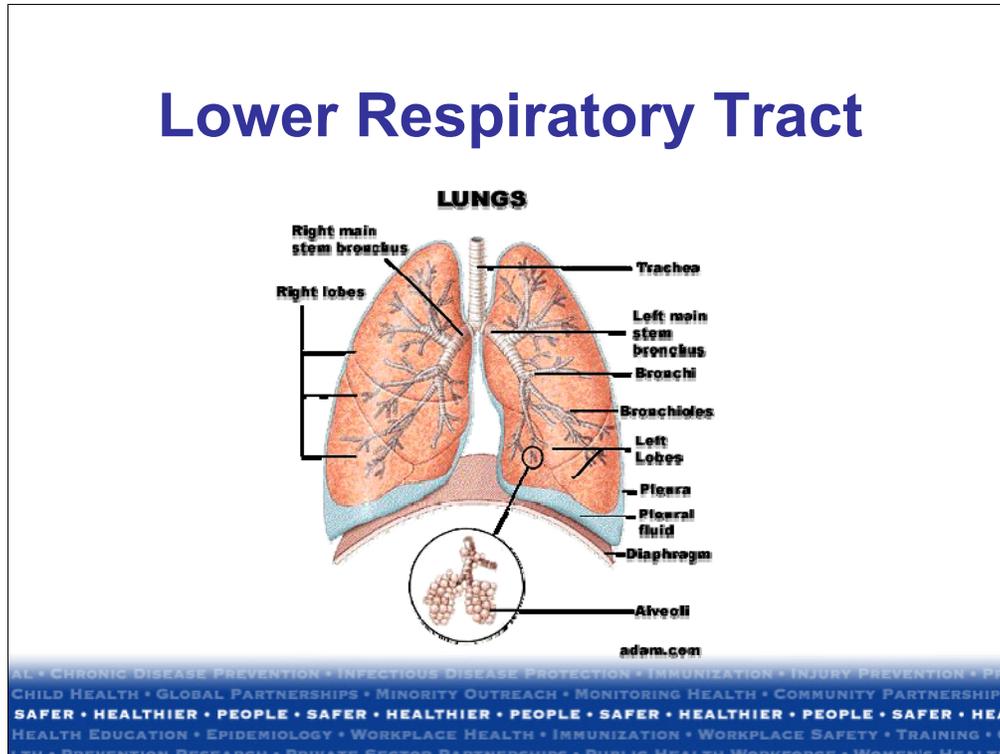
## Lower Respiratory System

- Trachea
- Bronchial tree
  - Left and right main bronchus
  - Carina
  - Lobar bronchus
  - Segmental bronchus
  - Bronchiole
  - Alveoli



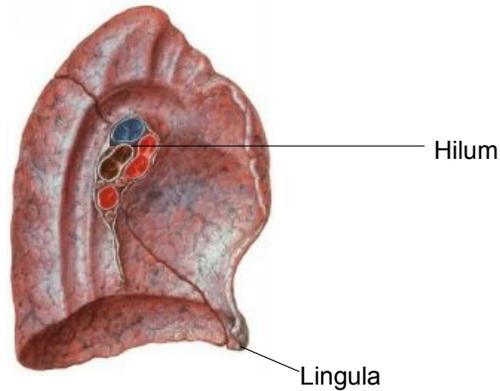
The lower respiratory tract includes the trachea and the bronchial tree. The trachea is the airway to the lungs. The bronchial tree is located inside the lungs. The trachea leads to the left and right main bronchus (*speaker instruction: point out on drawing.*) The carina is at the junction of the left and right main bronchus. The main stem bronchus decreases in size and becomes the lobar bronchus. The segmental bronchus branches from the lobar bronchus and leads to the bronchiole, which are smaller passageways through the lungs. The bronchiole progresses to the alveolar duct, the entrance to the alveolus. The alveoli are air sacs, and they receive the air that has passed through the respiratory system.

# Lower Respiratory Tract



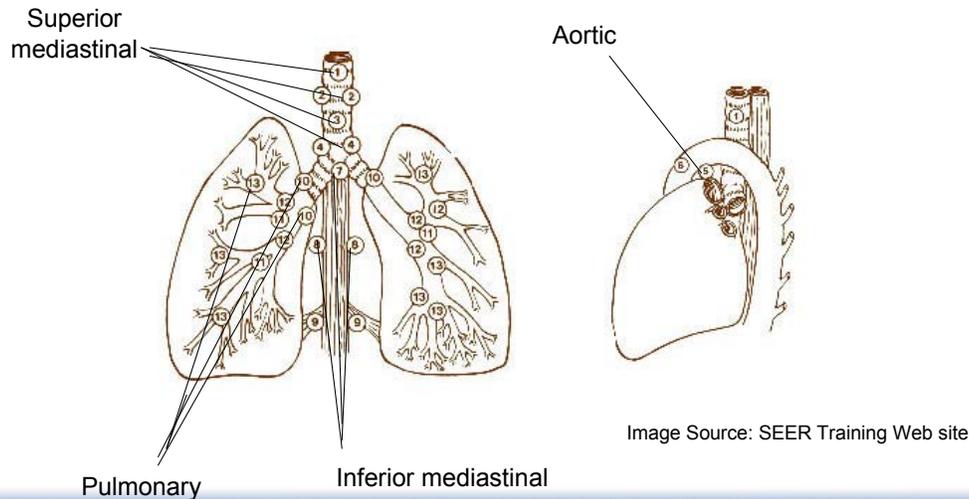
The right and left lung each contain a bronchial tree. The lungs are separated by the mediastinum. The mediastinum contains the heart, the trachea, the esophagus, and many lymph nodes. The lungs are each enclosed by pleura, a serous membrane. The visceral pleura is attached to the surface of the lung. The parietal pleura lines the walls of the thoracic cavity. The space between the visceral and parietal pleura is the pleural cavity and contains pleural fluid. The right lung is made up of three lobes. The right upper lobe makes up one-third of the right lung. The right middle lobe is narrow and triangular. The minor fissure separates the upper and middle lobes. The lower lobe is the largest lobe of the right lung and ends inferiorly at the diaphragm. The diaphragm is a musculomembranous partition that separates the thoracic and abdominal cavities. The major fissure separates the lower lobe of the right lung from the middle lobe.

# Lower Respiratory Tract



The left lung has two lobes: upper and lower. They are separated by the major fissure, which divides the lobes diagonally. The lobes of the lungs are not rectangular in shape. The lingula projects from the lower portion of the upper lobe of the left lung and is located just beneath the cardiac notch. The hilum is a depression on the mediastinal surface of the lung where the bronchus, blood vessels, and nerves enter the lungs. There is a hilum in both the left and right lungs.

# Regional Lymph Nodes for Lung



This diagram shows regional lymph node chains for the lung. The superior mediastinal nodes include superior mediastinal, pretracheal, retrotracheal, paratracheal, lower paratracheal, and azygos lymph nodes. The pulmonary lymph nodes include peribronchial, intrapulmonic, interlobar, hilar, and segmental lymph nodes. The inferior mediastinal nodes include carinal, subcarinal, paraesophageal, and pulmonary ligament nodes. The aortic nodes include subaortic, aortic window, para-aortic, and phrenic lymph nodes.

# ICD-O-3 Histology Coding

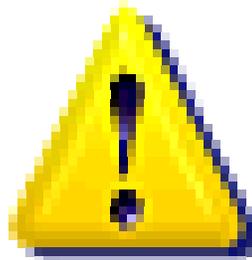
Lung

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# Caution!!

Pre-2007

Multiple Primary and  
Histology Rules used  
in the following slides  
are based on 2006  
rules.



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## Lung Cancer Histology

- Lung cancer is #1 cause of cancer death in men and women in the United States
- Two distinct subgroups of lung cancer
  - Small cell carcinoma
    - Responds best to non-surgical treatment
  - Non-small cell carcinoma
    - Treated surgically when feasible

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Lung cancer is the number one cause of cancer death in both men and women in the United States. There are two distinct subgroups of lung cancer. The first subgroup, small cell cancer, responds best to non-surgical treatment, especially chemotherapy. The second subgroup, non-small cell carcinoma, is usually treated surgically if feasible. Surgery may be followed or preceded by adjuvant radiation therapy or chemotherapy.

## Small Cell Carcinoma

- Includes small cell and oat cell carcinoma
- Is an aggressive cancer that metastasizes quickly to mediastinal nodes
- Metastasizes to brain, bone marrow, and liver

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Small cell carcinoma includes both small cell and oat cell carcinoma. Small cell carcinoma is a very aggressive disease that metastasizes quickly especially to the mediastinal lymph nodes. Common distant metastatic sites include the brain, bone marrow, and liver.

## Non-Small Cell Carcinoma

- Squamous cell carcinoma
  - Most common subtype worldwide
  - Slow-growing
  - Often located near hilum
  - Associated with hypercalcemia
- Large cell carcinoma
  - Less differentiated tumors
  - Often occur in periphery of lung
  - Present as large bulky tumors

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There are many different types of non-small cell carcinoma, but it can be difficult to distinguish among them unless they are well differentiated. Squamous cell carcinoma is the most common lung cancer subtype throughout the world. It is slow growing and does not metastasize quickly. The tumors are often centrally located in the lung near the hilum. Squamous cell carcinoma is associated with hypercalcemia. Large cell carcinoma is a less differentiated histology. The tumors often occur in the periphery, outer portion, of the lung. Tumors with large cell carcinoma are usually large and bulky.

## Non-Small Cell Carcinoma

- Adenocarcinoma
  - Most common histology in United States
  - WHO divides into 4 subtypes: acinar, papillary, bronchiolo-alveolar, and solid with mucin production
  - Most common type in nonsmokers
- Other non-small cell types
  - Adenosquamous, giant cell, neuroendocrine, spindle cell

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Adenocarcinoma is the most common lung cancer histology diagnosed in the United States. It includes many subtypes and it is considered an NOS histology in the *ICD-O-3 Coding Manual*. WHO divides adenocarcinoma into four subtypes: acinar, papillary, bronchiolo-alveolar, and solid with mucin production. Adenocarcinoma is the most common type diagnosed in nonsmokers. Other non-small cell carcinomas include but are not limited to adenosquamous, giant cell, neuroendocrine, and spindle cell.

## Histology Coding Rules: Lung

- Rules are a hierarchy
- Use rules in priority order with rule 1 having highest priority
- Use the first rule that applies
- Rules from *SEER Program Coding and Staging Manual (PCSM) 2004*, pages 86–87

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The histology coding rules are a hierarchy. They are listed in priority order and rule 1 has the highest priority. When determining the correct code to record for histology, begin with rule 1 and stop when you get to the first rule that applies. If rule 1 applies, there is no need to go any further. SEER and the Commission on Cancer are the sources for standards on histology codes. Because SEER has always worked closely with the ICD-O-3 editors, the SEER rules for histology coding are used. The rules for coding histology are found in the *SEER Program Coding and Staging Manual 2004*, pages 86–87. The *SEER Program Coding and Staging Manual 2004* is found on the SEER Web site, <http://seer.cancer.gov>.

# Histology Coding Rules: Lung

## Single Tumor

1. Code the histology if only one type is mentioned in the pathology report

*Example: Adenocarcinoma, periphery of RUL lung*

***Answer: 8140/3 Adenocarcinoma, NOS***

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The first set of rules is for single tumors.

**Rule 1:** Code the histology if only one type is mentioned in the pathology report.

**Example:** There is one tumor containing adenocarcinoma in the periphery of the right upper lobe of the lung. Record histology as 8140/3 adenocarcinoma.

## Histology Coding Rules: Lung

2. Code the **invasive histology** when both invasive and in situ tumor is present

*Example:* RUL lung tumor, pleomorphic carcinoma and squamous cell carcinoma in situ

Pleomorphic carcinoma 8022/3

Squamous cell carcinoma in situ 8070/2

**Answer: 8022/3 Pleomorphic carcinoma**

**Rule 2:** Code the **invasive histology** when both invasive and in situ tumor is present.

**Example:** A single tumor of the right upper lobe of the lung contains pleomorphic carcinoma, an invasive histology, and squamous cell carcinoma in situ. **Code the invasive portion of the tumor, pleomorphic carcinoma 8022/3.**

## Histology Coding Rules: Lung

### 2. (Continued)

*Exception:* If the histology of the invasive component is an NOS term such as carcinoma, adenocarcinoma, melanoma, or sarcoma, then code the histology using the specific term associated with the in situ component and the invasive behavior.

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**Exception to Rule 2:** If the histology of the invasive component is an NOS term such as carcinoma, adenocarcinoma, melanoma, or sarcoma, then code the histology using the specific term associated with the in situ component and the invasive behavior.

# Histology Coding Rules: Lung

## 2. (Continued)

*Example: Left lung lesion, carcinoma and in situ squamous cell carcinoma*

Carcinoma, NOS 8010/3

In situ squamous cell carcinoma 8070/2

***Answer: 8070/3 Squamous cell carcinoma***

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**Example:** The single lesion of the left lung contains carcinoma, a malignant NOS histology, and in situ squamous cell carcinoma, a specific histology with in situ behavior. The exception to rule 2 tells us to code the specific histology, in this case squamous cell carcinoma, and to code the malignant behavior from the NOS histology. So, the correct code is 8070/3 squamous cell carcinoma.

## Histology Coding Rules: Lung

3. Use a **mixed** histology code if one exists
4. Use a **combination** code if one exists

*Example: Peripheral area of LLL lung,  
adenocarcinoma and epidermoid carcinoma*

**Answer: 8560/3 Adenosquamous  
carcinoma**

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The next two rules pertain to mixed and combination codes.

**Rule 3:** Use a **mixed** histology code if one exists.

**Rule 4:** Use a **combination** code if one exists. When using a mixed/combination code, the words “and” or “mixed” will be in the diagnosis.

**Example:** The single lesion of the peripheral area of the left lower lobe of the lung contains adenocarcinoma and epidermoid carcinoma. There is a code for the combination of these cells types. Mixed adenocarcinoma and epidermoid carcinoma is a synonym for adenosquamous carcinoma 8560/3.

## Histology Coding Rules: Lung

5. Code the **more specific term** when one of the terms is NOS and the other is a more specific description of the same histology.

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**Rule 5:** Code the **more specific term** when one of the terms is NOS and the other is a more specific description of the same histology.

## Histology Coding Rules: Lung

### 5. (Continued)

*Example:* LUL lung, adenocarcinoma and bronchiolar adenocarcinoma

Adenocarcinoma, NOS 8140/3

Bronchiolar adenocarcinoma 8250/3

***Answer: 8250/3 Bronchiolo-alveolar adenocarcinoma***

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**Example:** The single lesion of the left upper lobe of the lung contains adenocarcinoma, an NOS term, and bronchiolar adenocarcinoma, a more specific histology. Record the code for bronchiolar adenocarcinoma because it is a more specific histology. The correct code is 8250/3 bronchiolo-alveolar adenocarcinoma. Bronchiolar adenocarcinoma is a synonym for bronchiolo-alveolar adenocarcinoma and they use the same histology code.

## Histology Coding Rules: Lung

### 6. Code the **majority** of the tumor

- Terms that mean majority of tumor:
  - Predominantly; with features of; major; type (eff. 1/1/99); with....differentiation (eff. 1/1/99); pattern and architecture (if in CAP protocol; eff. 1/1/2003)
  - Terms documented in *SEER PCSM 2004*, page 85

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**Rule 6:** Code the **majority** of the tumor. Terms that mean “majority” include “predominantly,” “with features of,” “major,” “type” (effective January 1, 1999), “with...differentiation” (effective January 1, 1999), “pattern and architecture” (if in College of American Pathologists protocol, effective January 1, 2003). The list of “majority” terms is found on page 85 of the *SEER Program Coding and Staging Manual 2004*.

# Histology Coding Rules: Lung

## 6. (Continued)

*Example: Small cell carcinoma, predominantly oat cell, right middle lobe lung lesion*

Small cell carcinoma 8041/3

Oat cell carcinoma 8042/3

**Answer: 8042/3 Oat cell carcinoma**

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**Example:** The lesion of the right middle lobe of the lung is described as small cell carcinoma, predominantly oat cell. Predominantly is a term that indicates tumor majority so oat cell carcinoma should be recorded as the histology. The correct code is 8042/3.

## Histology Coding Rules: Lung

### 6. (continued)

- Terms that DO NOT mean majority of tumor
  - With foci of; focus of/focal; areas of; elements of; component (eff.1/1/99)
    - Terms documented in *SEER PCSM 2004*, page 85

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Terms that do not mean “majority of tumor” are: “with foci of,” “focus of/focal,” “areas of,” “elements of,” “component” (effective January 1, 1999). They are also found on page 85 of the *SEER Program Coding and Staging 2004*.

## Histology Coding Rules: Lung

### 6. (Continued)

*Example:* LUL lung, non-small cell carcinoma, focally bronchiolo-alveolar carcinoma

Non-small cell carcinoma                      8046/3

Bronchiolo-alveolar carcinoma              8250/3

***Answer: 8046/3 Non-small cell carcinoma***

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**Example:** The histology of the lesion in the left upper lobe of the lung is described as non-small cell carcinoma, focally bronchiolo-alveolar carcinoma. The term focally does not describe tumor majority. In this case the majority of the tumor is non-small cell carcinoma 8046/3 and this is the code that is recorded.

## Histology Coding Rules: Lung

7. Code the **numerically higher** ICD-O-3 code

*Example:* Right lung lesion, large cell carcinoma and spindle cell carcinoma

Large cell carcinoma                      8012/3

Spindle cell carcinoma                    8032/3

***Answer: 8032/3 Spindle cell carcinoma***

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**Rule 7:** Code the **numerically higher** ICD-O-3 code. This rule should be used infrequently.

**Example:** The single right lung lesion contains large cell carcinoma and spindle cell carcinoma. None of the previous rules apply to this situation, so the histology with the highest code should be recorded. In this case that is spindle cell carcinoma 8032/3.

## Histology Coding Rules: Lung

### Multiple Tumors with Different Behaviors in Same Organ Reported as Single Primary

Code the histology of the invasive tumor when one lesion is in situ and the other is invasive

*Example: 2 lesions, left lung:*

- |                                |        |
|--------------------------------|--------|
| 1) adenocarcinoma in situ, LUL | 8140/2 |
| 2) adenocarcinoma, LLL         | 8140/3 |

**Answer: 8140/3 Adenocarcinoma**

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This rule is used when there are multiple tumors with different behaviors in the same organ reported as a single primary. Code the histology of the invasive tumor when one lesion is in situ and the other is invasive.

**Example:** There are two lesions in the left lung. The left upper lobe lesion contains adenocarcinoma in situ, histology with in situ behavior, and the left lower lobe lesion contains adenocarcinoma, the same histology with malignant behavior. This is one primary, and the malignant histology, adenocarcinoma 8140/3 is recorded.

## Histology Coding Rules: Lung

### Multiple Tumors in Same Organ Reported as Single Primary

1. Code histology when multiple tumors have the same histology

*Example: Right lung, 2 lesions*

1) squamous cell carcinoma, right upper lobe  
8070/3

2) squamous cell carcinoma, right middle lobe  
8070/3

**Answer: 8070/3 Squamous cell carcinoma**

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The rules for multiple tumors in the same organ reported as a single primary follow.

**Rule 1:** Code the histology when multiple tumors have the same histology.

**Example:** This patient has two lesions in the right lung. The lesion in the right upper lobe is described as squamous cell carcinoma, and the lesion in the right middle lobe is also described as squamous cell carcinoma. The histology code is recorded as squamous cell carcinoma 8070/3, and this is one primary. Rules 2, 3, and 4 for multiple tumors in the same organ reported as a single primary are unique to other sites and not applicable to the lung.

## Histology Coding Rules: Lung

5. Code the more specific term when one of the terms is NOS and the other is a more specific description of the same histology

*Example: Right lung, 2 lesions*

1) adenocarcinoma, RUL 8140/3

2) tubular adenocarcinoma, RLL 8211/3

**Answer: 8211/3 Tubular adenocarcinoma**

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**Rule 5:** Code the more specific term when one of the terms is NOS and the other is a more specific description of the same histology.

**Example:** There are two lesions in the right lung. The right upper lobe lesion is adenocarcinoma, an NOS term. The right lower lobe lesion is tubular adenocarcinoma, a more specific description of the same histology. Record histology as 8211/3 tubular adenocarcinoma because that is the more specific histology.

## Histology Coding Rules: Lung

6. Code all other multiple tumors with different histologies as multiple primaries

*Example: Left lung, 2 lesions*

1) squamous cell carcinoma, LUL 8070/3

2) spindle cell carcinoma, LLL 8032/3

**Answer: 2 primary sites; complete abstract for each one**

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**Rule 6:** Code all other multiple tumors with different histologies as multiple primaries. If there are two lesions in the same lung, they are considered two primaries if the histology in each lesion is different. If none of the previous five rules applies to the situation, the histology is different and the two lesions are considered separate primaries.

**Example:** There are two lesions in the left lung. The left upper lobe lesion is squamous cell carcinoma, and the left lower lobe lesion is spindle cell carcinoma. The histologies are different and none of the rules for multiple tumors determined to be a single primary apply. The lesions are separate primaries and two abstracts should be completed.

## Coding Grade for Lung

- Histologic grade, differentiation, codes
  - 1 = well differentiated
  - 2 = moderately differentiated
  - 3 = poorly differentiated
  - 4 = undifferentiated
- Do not use tumor grade from pathology of metastatic site

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Grade or differentiation is the measurement of how closely cancer cells resemble the cells of the organ in which the cancer originated. The code definitions for grade are shown on this slide; 1 being well differentiated, 2 being moderately differentiated, 3 being poorly differentiated, and 4 being undifferentiated. There are no histology specific grading systems for lung. Tumor grade or differentiation from a pathology report of a metastatic site should not be used to code grade of the lung primary.

# Abstracting Lung Cases

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## Date of Diagnosis: Lung

- Review all sources for first date of diagnosis
  - Physical exam
  - Imaging reports
  - Sputum or other cytology
  - Pathologic confirmation
  - Physicians' and nurses' notes
  - Consultation reports

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Review the patient's health record carefully to identify the date of first cancer diagnosis. Documentation may be found in the physical exam, imaging report, sputum or other cytology, pathology reports, physicians' and nurses' notes, and consultation reports. If a patient is receiving treatment at your facility and was diagnosed elsewhere, the date of diagnosis may be found in copies of reports forwarded from the diagnosing facility or in consultation reports. When determining diagnosis date, remember which ambiguous terms constitute a cancer diagnosis and which terms do not.

## Ambiguous Diagnostic Terms That Constitute Cancer Diagnosis

- Apparent(ly)
- Appears
- Comparable with
- Compatible with
- Consistent with
- Favors
- Malignant appearing
- Most likely
- Presumed
- Probable
- Suspect(ed)
- Suspicious (for)
- Typical of

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The terms shown on this slide are ambiguous terms that constitute a cancer diagnosis. If that documentation is the first diagnosis of cancer on a report, including physical examination, then the date it was made is the date of diagnosis.

## Ambiguous Diagnostic Terms That Do Not Constitute Cancer Diagnosis

- Cannot be ruled out
- Equivocal
- Possible
- Potentially malignant
- Questionable
- Rule out
- Suggests
- Worrisome

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If the terms on this slide are included in a diagnosis, they do not constitute a diagnosis of cancer. The date the information was discovered would not be the date of diagnosis.

## Lung Cancer Work-up

- Physical examination
  - Tumor location
  - Lymph node status
  - Organ enlargement

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The initial work-up for lung cancer includes a physical examination. The exam would include auscultation and percussion of the chest as well as palpation of lymph node regions and the abdomen. There are many things that might be revealed by the physical examination; however, in most cases it would require diagnostic imaging to reveal evidence of tumor location, tumor size, and lymph node status. Findings from the the physical exam that might be noted in the physicians' notes and history and physical include: decreased or abnormal breath sounds, palpable lymph nodes, and organ enlargement including hepatomegaly or splenomegaly. Physical findings would also document a possible Pancoast tumor due to Superior Vena Cava (SVC) syndrome. Pancoast tumors are located in the pleural apex and the location of the tumor rather than the histology produces the clinical pattern. Physical findings of this syndrome include facial fullness or flushing, headache, dyspnea, and cough. Less common complaints include edema of the upper extremities, pain, dysphagia, and syncope. Physical findings may include prominent distended and tortuous venous systems in the face, neck, and upper trunk, papilledema, facial cyanosis, and pleural effusion. The most common causes of this syndrome are extrinsic compression of the superior vena cava and intraluminal venous thrombosis. Up to 82% of cases result from obstruction caused by bronchogenic carcinoma.

# Lung Cancer Work-up

- Imaging studies
  - Chest X-ray
  - CT scan or MRI of lung
  - CT scan or MRI
    - Bone
    - Brain
    - Liver/spleen
    - Esophagus

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Imaging studies done as part of the work-up for lung cancer may document the size, location, and extension of the primary tumor; whether or not there was mediastinal or hilar involvement; if there was atelectasis and/or pleural effusion; and whether or not distant sites were involved. Imaging studies performed may include chest X-ray, computerized tomography (CT) scan or magnetic resonance imaging (MRI) of lung, and CT scan or MRI of bone, brain, liver/spleen, and/or esophagus.

# Lung Cancer Work-up

- Endoscopy
  - Bronchoscopy
  - Thoroscopy
  - Mediastinoscopy
  - Laryngoscopy
  - Esophagoscopy

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Endoscopic evaluations play an important role in diagnosis and staging for lung cancer and may identify tumor location, size, extension, and metastasis. Bronchoscopy visualizes the trachea and main stem bronchus; thoroscopy visualizes the thoracic cavity; mediastinoscopy visualizes and aids in biopsy of lymph nodes in the mediastinum; laryngoscopy views the larynx to determine the cause of vocal cord paralysis; and esophagoscopy evaluates the esophagus for invasion by the lung tumor.

## Lung Cancer Work-up

- Sputum cytology
- Bronchial washings
- Thoracentesis
- Biopsy of tumor
- Bone marrow biopsy

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Pathologic evaluation of the tumor or metastatic sites aids in determining the histology, grade, location, size, and extension of the tumor, as well as lymph node involvement and invasion of blood or lymph channels. Methods used to evaluate lung pathology include sputum cytology, bronchial washings, thoracentesis, tumor biopsy, and bone marrow biopsy.

## Coding Primary Site for Lung

- Apex of lung
  - C34.1 Upper lobe
- Base of lung
  - C34.3 Lower lobe
- Use SEER Site-Specific Coding Guidelines for Lung, Appendix C, page C-383, *SEER PCSM 2004*

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When assigning the topography code for lung cancer, assign the specific lung subsite as defined in the *ICD-O-3 Coding Manual* if the subsite information is documented in the health record. The site-specific coding guidelines for lung found in Appendix C of the *SEER Program Coding and Staging Manual 2004* instruct us to assign topography code for apex of the lung to C34.1, upper lobe, and base of the lung to C34.3, lower lobe.

## Laterality for Lung

- Code the laterality for the lung in which the tumor originated
- Count cancer in both lungs as separate primaries unless metastasis from one side to the other is documented
- Code laterality for all lung subsites except carina
  - Per *FORDS*, page 11, and *SEER PCSM 2004*, page 79

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Laterality describes the side of a paired organ or side of the body on which a tumor originates. The lungs are paired organs. If both sides of a paired organ contain cancer, they are counted as separate primaries unless one side is described as metastatic from the other. Laterality must be coded for all lung subsites with the exception of carina. The topography code for carina is C34.0. Laterality is coded for other subsites assigned to topography code C34.0. This is documented in *FORDS*, page 11, and *SEER Program Coding and Staging Manual 2004*, page 79.

# Collaborative Staging

Lung

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## Collaborative Staging: Lung

- Collaborative Staging data items submitted to NPCR
  - CS Extension
  - CS Lymph Nodes
  - CS Mets at Dx

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The collaborative staging data items discussed in this presentation are those required to be submitted to NPCR. For lung they include CS extension, CS lymph nodes, and CS mets at dx. The complete CS data set is required to be collected by Commission on Cancer approved cancer programs.

## CS Extension Lung: Notes

1. Code direct extension or other involvement of structures considered M1 in AJCC staging in CS Mets at DX
  - Sternum
  - Skeletal muscle
  - Skin of chest
  - Contralateral lung or main stem bronchus
  - Separate tumor nodule in different lobe, same lung, or in contralateral lung

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Presented here are the coding notes that proceed the codes for the CS extension data item in the *Collaborative Staging Manual*.

**Note 1:** For most collaborative staging schemas, all direct extension of the primary tumor is coded in the CS extension data item. Lung is an exception. Direct extension of a lung tumor to the sternum, skeletal muscle, skin of chest, and contralateral lung or main stem bronchus is coded in the data item, CS mets at dx, because that extension is considered distant disease in AJCC Cancer Staging and in Summary Stage 2000. A separate tumor nodule in a different lobe of the same lung or in the contralateral lung is also coded in the data item, CS mets at dx.

## CS Extension Lung: Notes

2. Assume the tumor is greater than or equal to 2 cm from the carina if lobectomy, segmental resection, or wedge resection is done

Code 20: Tumor involving main stem bronchus greater than or equal to 2 cm from carina

Code 21: Tumor involving main stem bronchus, NOS

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**Note 2:** If the patient has a lobectomy, segmental resection, or wedge resection, it can be assumed that the tumor is greater than or equal to 2 cm from the carina. Note 2 helps us when trying to decide if the CS extension code should be code 20 or 21. Code 20 is used if a tumor involving the main stem bronchus is greater than or equal to 2 cm from the carina. If the distance from the carina is not stated and the patient received lobectomy, segmental resection, or wedge resection, it can be assumed that the distance from the carina is equal to or greater than 2 cm and code 20 is used. Code 21 is used if the distance of the tumor involving the main stem bronchus is not stated and the patient did not have any of the procedures listed in the note.

## CS Extension Lung: Notes

3. If no mention of opposite lung is made on the chest X-ray, assume it is not involved
4. Bronchopneumonia is not the same as obstructive pneumonitis and should not be coded as such

Code 40: Atelectasis/obstructive pneumonitis that extends to the hilar region but does not involve entire lung

Code 55: Atelectasis/obstructive pneumonitis involving entire lung

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**Note 3:** Assume that the opposite lung is not involved by tumor if there is no mention of such involvement in the chest X-ray.

**Note 4:** Bronchopneumonia and obstructive pneumonitis are not the same thing, and bronchopneumonia should not be coded as obstructive pneumonitis when recording CS extension. Code 40 is used when the patient has atelectasis/obstructive pneumonitis that extends to the hilar region but does not involve the entire lung. Code 55 is used when atelectasis/obstructive pneumonitis involves the entire lung. Obstructive pneumonitis is an obstructive inflammation of part or all of the lung. Longstanding pneumonia is not a synonym for pneumonitis. Atelectasis is the incomplete expansion or collapse of part or all of the lung. The presence of atelectasis/obstructive pneumonitis should be documented in radiology reports including chest x-ray and CT scan or MRI of the chest.

## CS Extension Lung: Notes

### 5. Pulmonary artery/vein

- Code involved pulmonary artery/vein in the mediastinum to 70
- If the involvement of artery/vein appears to be only within the lung and not in the mediastinum, do not use code 70

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**Note 5:** If the lung tumor directly extends to a pulmonary artery or vein in the mediastinum, assign code 70. However, if the artery/vein involvement appears to be only within the lung and not in the mediastinum, do not use code 70. In that case, the code that describes the documented tumor involvement should be assigned.

## CS Extension Lung: Notes

### 6. Pleural effusion

- A. SEER: Ignore pleural effusion that's negative for tumor; assume negative if resection done
- B. AJCC: If multiple cytopathologic exams of pleural fluid are negative, exclude pleural effusion as a staging element

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**Note 6:** The *SEER Program Coding and Staging Manual 2004* says to ignore pleural effusion that is negative for tumor and to assume that the pleural effusion is negative if a resection was done. The *AJCC Staging Manual* says that most pleural effusions associated with lung cancer are due to tumor. However, if multiple cytopathologic examinations of the pleural fluid are negative and the clinical judgment is that the effusion is not related to the tumor, then exclude the effusion as a staging element and assign T1, 2, or 3. If the patient had pleural effusion that was not cytopathologically negative for tumor, assign code 72 for malignant pleural effusion. However, if the patient with pleural effusion did have a resection, assume that the pleural effusion was negative for tumor and do not assign code 72 for the data item, CS extension.

## CS Extension Lung: Notes

7. Vocal cord paralysis, superior vena cava obstruction, or compression of trachea or esophagus
  - Use code 70 if caused by involvement of recurrent branch of vagus nerve or by tumor location
  - Code in CS LYMPH nodes as mediastinal node involvement if the tumor is peripheral and unrelated to the conditions

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**Note 7:** Vocal cord paralysis, superior vena cava obstruction, or compression of the trachea or esophagus are manifestations that may be coded in either CS extension or CS lymph nodes. If a patient with any of these conditions has involvement of the recurrent branch of the vagus nerve, which may cause vocal cord paralysis, or tumor located so that it compresses the trachea or esophagus or obstructs the vena cava, assign code 70. However, if the tumor is peripheral, outside of the central part of the lung, and unrelated to the conditions, code the manifestations in the data item, CS lymph nodes, as mediastinal node involvement.

## CS Extension Lung

- Code 00
  - In situ; noninvasive; intraepithelial
- Code 10:
  - Tumor confined to 1 lung WITHOUT conditions described in codes 20–80
- Code 11
  - Superficial tumor of any size with invasive component limited to bronchial wall

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Presented next are the CS extension codes for lung. Please refer to the lung schema in the *Collaborative Staging Manual*. In situ tumors are coded to 00. Use code 10 when the tumor is confined to the lung without extension or conditions described in codes 20–80. Do not code superficial tumors as code 10. Superficial lung tumors of any size are coded to 11. Superficial tumors are located near the surface of the lung and minimally invasive, and the invasion is limited to the bronchial wall.

## CS Extension Lung

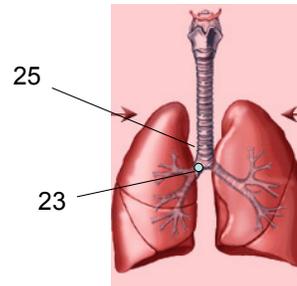
- Code 20
  - Extension from other parts of lung to main stem bronchus, NOS
  - Tumor involving main stem bronchus greater than or equal to 2 cm from carina
- Code 21
  - Tumor involving main stem bronchus, NOS

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Assign code 20 if the lung tumor originates in any part of the lung and extends to the main stem bronchus. Code 20 is also used for tumors that involve the main stem bronchus and are 2 cm or more away from the carina. As referenced in note 2, distance of 2 cm or greater from the carina can be assumed if the patient had lobectomy, segmental resection, or wedge resection. Assign code 21 if the tumor involves the main stem bronchus, NOS. This includes tumors involving the main stem bronchus when the distance from the carina is not known or not stated and the patient did not have lobectomy, segmental resection, or wedge resection as referenced in note 2.

## CS Extension Lung

- Code 23
  - Tumor confined to hilus
- Code 25
  - Tumor confined to carina
- Code 30
  - Localized, NOS



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Use code 23 if the tumor is confined to the hilus. The hilus is a depression on the mediastinal surface of the lung where the bronchus, blood vessels, and nerves enter the lung. Use code 25 if the tumor is confined to the carina. The carina is at the junction of the left and right main bronchus. It is the one lung subsite that is not considered lateral. Code 30 is assigned to patients with localized disease, NOS. This is usually used for patients transferred from another facility for treatment and the only information documented is that the disease is localized.

## CS Extension Lung

- Code 40
  - Atelectasis/obstructive pneumonitis that extends to the hilar region WITHOUT pleural effusion
  - Atelectasis/obstructive pneumonitis, NOS
- Code 45
  - Extension to pleura, visceral or NOS, WITHOUT pleural effusion
  - Extension to pulmonary ligament WITHOUT pleural effusion

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Code 40 is assigned when the patient has atelectasis/obstructive pneumonitis that extends to the hilar region without pleural effusion or atelectasis/obstructive pneumonitis, NOS. As referenced in note 4 obstructive pneumonitis and bronchopneumonia are not the same thing. Bronchopneumonia alone should not be assigned code 40. When the tumor extends to the visceral pleura or to pleura, NOS, and there is no pleural effusion, assign code 45. The visceral pleura is attached to the surface of the lung. If the tumor extends to the pulmonary ligament and there is no pleural effusion, also use code 45. The pulmonary ligament is a pleural fold that extends from the hilus to the base on the medial surface of the lung.

## CS Extension Lung

- Code 50
  - Tumor of/involving main stem bronchus less than 2.0 cm from carina
- Code 52
  - (40) + (50)
- Code 53
  - (45) + (50)

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If a tumor originates in or involves the main stem bronchus and it is located less than 2 cm from the carina, the extension code is 50. The carina is located at the junction of the left and right main stem bronchi. Assign code 52 when the tumor involves the main stem bronchus and is less than 2.0 cm from the carina (50) and has atelectasis/obstructive pneumonitis to the hilar region without pleural effusion (40). Use code 53 when the tumor involves the main stem bronchus and is less than 2.0 cm from the carina (50) and extends to the pleura or pulmonary ligament without pleural effusion (45).

## CS Extension Lung

- Code 55
  - Atelectasis/obstructive pneumonitis involving entire lung
- Code 56
  - Parietal pericardium or pericardium, NOS
- Code 59
  - Invasion of phrenic nerve

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If the patient has atelectasis/obstructive pneumonitis that involves the entire lung, use code 55. As discussed in note 4 bronchopneumonia is not atelectasis/obstructive pneumonitis and should not be coded as such. Code 56 is assigned when the tumor extends to the parietal pericardium or pericardium, NOS. The parietal pericardium is the outer layer of the serous sac that surrounds the heart. When the tumor extends to the phrenic nerve, use code 59. The phrenic nerve runs through the pleura, pericardium, and diaphragm.

## CS Extension Lung

- Code 60: Direct extension to:
  - Brachial plexus, inferior branches or NOS, from superior sulcus
  - Chest wall
  - Diaphragm
  - Pancoast tumor (superior sulcus syndrome), NOS
  - Parietal pleura

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Direct tumor extension from the superior sulcus, which is the extreme apex of the lung, to the inferior branches of the brachial plexus or to the brachial plexus, NOS, is assigned code 60. It is a symptom complex called Pancoast tumor or superior sulcus syndrome. The brachial plexus includes the ventral branches of the last four cervical spinal nerves and most of the ventral branch of the first thoracic spinal nerves. The inferior branches are cervical spinal nerve 8 (C8) and thoracic spinal nerve 1 (T1). Code 60 is also assigned for tumors that directly extend to the chest wall, diaphragm, or parietal pleura. Separate lesions in the chest wall or diaphragm are coded in the data item, CS mets at dx.

## CS Extension Lung

- Code 61
  - Superior sulcus tumor
    - WITH encasement of subclavian vessels
    - WITH unequivocal involvement of superior branches of brachial plexus (C8 or above)
- Code 65
  - Multiple tumor nodules in the SAME lobe; satellite nodules in the SAME lobe

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If a superior sulcus tumor encases the subclavian vessels or involves the superior branches of the brachial plexus, code 61 is assigned. The subclavian vessels are the veins and arteries located inferior to the clavicle. The superior branches of the brachial plexus are the spinal nerves located above C8. If a patient has multiple tumor nodules, lesions, or masses in the SAME lobe or satellite nodules in the SAME lobe of the lung, assign code 65.

## CS Extension Lung

- Code 70
  - **Blood vessels, major: azygos vein, pulmonary artery or vein, superior vena cava**
  - **Carina from lung/main stem bronchus**
  - **Compression of esophagus or trachea not specified as direct extension**
  - **Esophagus**
  - **Mediastinum, extrapulmonary or NOS**
  - **Nerves: cervical sympathetic, recurrent laryngeal, vagus**
  - **Trachea**

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Extension to the major blood vessels including the azygos vein, pulmonary artery or vein, and superior vena cava is assigned code 70. Obstruction of the superior vena cava by a centrally located tumor is also assigned code 70. However, per note 7, if the tumor is located on the periphery and not related to the obstruction, the obstruction is coded as mediastinal node involvement in the data item, CS lymph nodes. If a tumor originates in the main stem bronchus or other part of the lung and extends to the carina, assign code 70. Compression of the esophagus or trachea caused by a centrally located tumor is assigned code 70. However, again as discussed in note 7, if the tumor is on the periphery and not related to the compression, the condition is coded as mediastinal lymph node involvement in the data item, CS lymph nodes. Code direct extension of the lung tumor to the esophagus, mediastinum, or trachea as 70. Direct extension to the cervical sympathetic, recurrent laryngeal, and vagus nerves is assigned code 70. Vocal cord paralysis caused by involvement of the recurrent laryngeal nerve is assigned code 70. However, as discussed in note 7, if the tumor is peripheral and not related to the vocal cord paralysis, do not code the condition in the data item, CS extension.

## CS Extension Lung

- Code 71
  - Heart
  - Visceral pericardium
- Code 72
  - Malignant pleural effusion
  - Pleural effusion, NOS

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If the tumor extends to the heart or visceral pericardium, assign code 71. The visceral pericardium is the inner serous sac that surrounds the heart and the great vessels. Use code 72 if the patient has malignant pleural effusion or pleural effusion, NOS. Pleural effusion in the lung in which the tumor originates or in the contralateral lung is assigned code 72. If pleural effusion, NOS, is documented in the record but the patient has lung resection, assume that the pleural effusion is not malignant and do not code it in the data item, CS extension. If the patient has pleural effusion, NOS, and multiple cytopathologic exams show no malignant cells, do not code the effusion in the data item, CS extension.

## CS Extension Lung

- Code 73
  - Adjacent rib
- Code 74
  - Aorta
- Code 75
  - Vertebra
  - Neural foramina

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Use code 73 when there is direct tumor extension to the adjacent rib. This most often occurs with peripheral tumors. Discontinuous metastasis to the ribs is coded in the data item, CS mets at dx. Use code 74 when there is direct tumor extension to the aorta. Other major blood vessel involvement is assigned code 70, but extension to the aorta has its own extension code. The aorta is the main trunk of the arterial system and arises in the left ventricle of the heart. It proceeds to the thoracic cavity where it is located between the right and left lung. When the tumor extends into a vertebra or neural foramina, assign code 75. The vertebrae are the bones of the spinal column. The neural foramina is a passageway in the vertebrae.

## CS Extension Lung

- Code 76
  - Pleural tumor foci separate from direct pleural invasion
- Code 77
  - Inferior vena cava
- Code 78
  - (73) plus any of [(61–72) or (74–77)]

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When separate tumor foci not part of direct tumor extension into the pleura are identified in either the parietal or visceral pleura, assign code 76. Even though it is discontinuous tumor involvement, it is coded in the data item, CS extension. Use code 77 when the inferior vena cava is directly invaded by tumor. Other major blood vessel involvement is assigned code 70, but extension to the inferior vena cava has its own extension code. The inferior vena cava is the venous trunk for the lower extremities. It passes to the right of the aorta and through the thoracic cavity before it empties into the right atrium. Code 78 is used if there is direct extension to the adjacent rib (73) plus any of the conditions described in codes 61–72 or 74–77.

## CS Extension Lung

- Code 79
  - Pericardial effusion, NOS
  - Malignant pericardial effusion
- Code 80
  - Further contiguous extension (except to structures specified in CS Mets at DX)
- Code 95
  - No evidence of primary tumor

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If the patient has pericardial effusion, NOS, or malignant pericardial effusion, assign code 79. However, if the pericardial effusion is caused by a nonmalignant condition such as viral pericarditis or congestive heart failure, do not code the condition in the data item, CS extension. Any further direct extension that is not described in the previous extension codes or is not coded in the data item, CS mets at dx (M1 structures in AJCC), is assigned code 80. If there is no evidence of the primary lung tumor, assign code 95. Do not code occult carcinoma to code 95.

## CS Extension Lung

- Code 98
  - Tumor proven by presence of malignant cells in sputum or bronchial washings but not visualized by imaging or bronchoscopy
  - Occult carcinoma
- Code 99
  - Unknown extension

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Occult carcinoma is lung cancer detected by the presence of malignant cells in sputum or bronchial washings, but it cannot be seen on imaging or by bronchoscopy. It can be any cell type. Occult carcinoma is assigned code 98. If tumor extension is unknown, cannot be assessed, or is not documented, assign code 99.

## CS Lymph Nodes Lung: Notes

1. Code only regional nodes and nodes, NOS, in this data item
2. If at mediastinoscopy/X-ray description is mass, adenopathy, or enlargement of any lymph nodes named in codes 10 or 20, assume at least regional nodes are involved
3. The words “no evidence of spread” or “remaining examination negative” suffice to consider regional lymph nodes negative in absence of any statement about nodes

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Presented here are the coding notes that proceed the CS lymph nodes codes in the *Collaborative Staging Manual*.

**Note 1:** Only regional lymph node involvement or node involvement, NOS, is coded in the data item, CS lymph nodes. Distant node involvement is coded in the data item, CS mets at dx.

**Note 2:** Assume at least regional nodes are involved if at mediastinoscopy/X-ray the description is mass, adenopathy, or enlargement of any nodes named as regional in codes 10 and 20. For other sites these words do not define lymph node involvement, but they do for lung.

**Note 3:** If the health record does not contain a statement about lymph node involvement but it does include the words “no evidence of spread” or “remaining examination negative,” regional lymph node involvement can be considered negative and the data item, CS lymph nodes, coded as 00, no regional lymph node involvement.

## CS Lymph Nodes Lung: Notes

4. Vocal cord paralysis, superior vena cava obstruction, or compression of trachea or esophagus
  - Use code 20, mediastinal node involvement, if the tumor is peripheral and unrelated to the conditions
  - Code in CS Extension if conditions are caused by involvement of recurrent branch of vagus nerve or by tumor location

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**Note 4:** Vocal cord paralysis, superior vena cava obstruction, or compression of the trachea or esophagus are manifestations that may be coded in either the CS lymph nodes data item or the CS extension data item. If the tumor is peripheral and unrelated to the conditions, code the manifestations in the data item, CS lymph nodes, as mediastinal node involvement, code 20. If a patient with any of these conditions has involvement of the recurrent branch of the vagus nerve, which may cause vocal cord paralysis, or tumor located so that it compresses the trachea or esophagus or obstructs the vena cava, code in the data item, CS extension.

## CS Lymph Nodes Lung

- Code 00
  - None; no regional lymph node involvement
- Code 10
  - Regional lymph nodes, ipsilateral
    - Bronchial
    - Hilar
    - Intrapulmonary
    - Peri/parabronchial

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Presented next are the codes for the CS lymph nodes data item. Please refer to the lung schema in the *Collaborative Staging Manual*. When there is no regional lymph node involvement, assign code 00. Ipsilateral (same side) regional lymph nodes assigned code 10 include the bronchial, hilar, intrapulmonary, and peri or parabronchial lymph nodes. The hilar nodes may be described as bronchopulmonary, proximal lobar, or pulmonary root. The intrapulmonary nodes include the interlobar, lobar, segmental, and subsegmental. Consider mass, adenopathy, or enlargement of any of these lymph regions involvement, and assign code 10.

## CS Lymph Nodes Lung

- Code 20
  - Regional lymph nodes, ipsilateral
    - Aortic
    - Carinal
    - Mediastinal
    - Pericardial
    - Peri/paraesophageal
    - Peri/paratracheal
    - Pre- and retrotracheal
    - Pulmonary ligament
    - Subcarinal

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Assign code 20 when lymph node involvement includes the ipsilateral (same side) aortic, carinal, mediastinal, pericardial, peri/paraesophageal, peri/paratracheal, pre- and retrotracheal, pulmonary ligament, and/or subcarinal lymph nodes. If the patient has manifestations including vocal cord paralysis, superior vena cava obstruction, and/or compression of the trachea or esophagus and the lung tumor is located peripherally and not the cause of the manifestations, code as involvement of mediastinal lymph nodes (20). Consider mass, adenopathy, or enlargement of any of these lymph regions involvement, and assign code 20.

## CS Lymph Nodes Lung

- Code 50
  - Regional lymph nodes, NOS
- Code 60
  - Contralateral/bilateral hilar
  - Contralateral/bilateral mediastinal
  - Scalene, ipsilateral or contralateral
  - Supraclavicular, ipsilateral or contralateral

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Assign code 50 when regional lymph nodes are involved but the specific lymph regions are not named. Code 60 is used when contralateral (opposite side) or bilateral (both sides) hilar or mediastinal lymph nodes are involved. Also use code 60 if ipsilateral (same side) or contralateral scalene or supraclavicular lymph nodes are involved. The supraclavicular nodes are located above the collarbone. The scalene lymph nodes are located deep in the neck near the cervical vertebra.

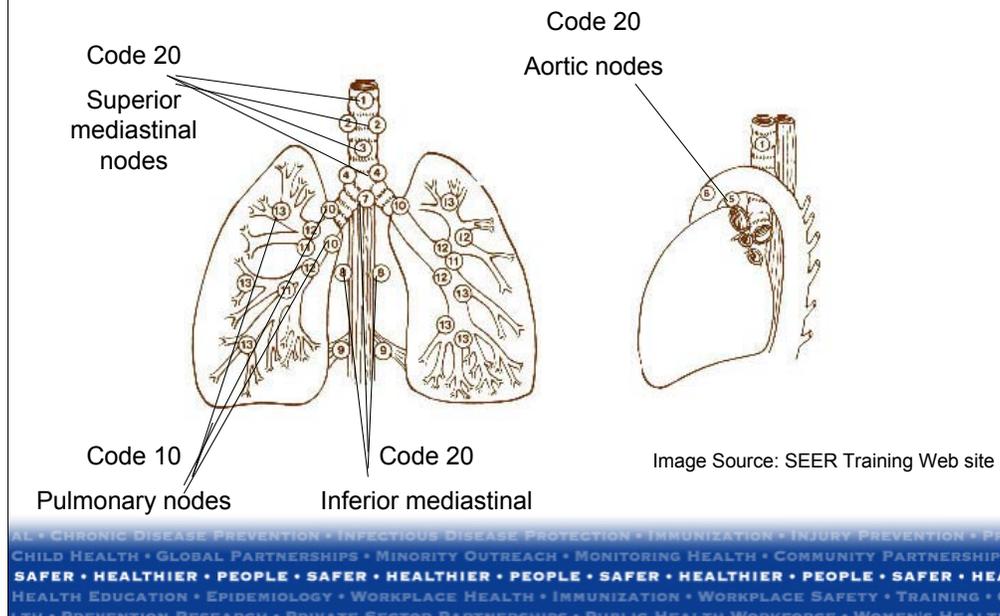
## CS Lymph Nodes Lung

- Code 80
  - Lymph nodes, NOS
- Code 99
  - Unknown

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When the patient's regional lymph node involvement is not described in any of the previous codes, assign code 80. Use code 99 when regional lymph node involvement is unknown, not stated, cannot be assessed, or is not documented in the patient's record.

## Regional Lymph Nodes for Lung



This diagram shows regional lymph node chains for the lung. The superior mediastinal nodes are assigned code 20 and include superior mediastinal, pretracheal, retrotracheal, paratracheal, lower paratracheal, and azygos lymph nodes. The pulmonary lymph nodes are assigned code 10 and include peribronchial, intrapulmonic, interlobar, hilar, and segmental lymph nodes. The inferior mediastinal nodes are also assigned code 20 and include carinal, subcarinal, paraesophageal, and pulmonary ligament nodes. The aortic nodes are assigned code 20 and include subaortic, aortic window, para-aortic, and phrenic lymph nodes.

## CS Mets at DX

- Code 00
  - No; none
- Code 10
  - Distant lymph nodes including cervical nodes
- Code 35
  - Separate tumor nodule in different lobe, same lung

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Distant metastasis at diagnosis is recorded in the data item, CS mets at dx. Please refer to the lung schema in the *Collaborative Staging Manual*. If there is no distant metastasis, assign code 00. Code 10 is used when distant lymph nodes, including cervical nodes, are involved. A separate tumor nodule of the same histology as the primary that is located in a different lobe of the same lung is distant metastasis and assigned code 35. If the separate tumor nodule had a different histology, it would most likely be considered a separate primary and a second abstract would be completed.

## CS Mets at DX

- Code 37
  - Extension to:
    - Sternum
    - Skeletal muscle
    - Skin of chest
- Code 39
  - Extension to:
    - Contralateral lung
    - Contralateral main stem bronchus
  - Separate tumor nodule in contralateral lung

For most sites only discontinuous metastasis is coded in the data item, CS mets at dx. However, for lung, direct extension coded as M1 in AJCC staging is coded in the data item, CS mets at dx. Assign code 37 when the tumor directly extends to the sternum, skeletal muscle, or skin of chest. Use code 39 when there is direct tumor extension to the contralateral (opposite) lung or contralateral main stem bronchus. Code 39 is also used when there is a separate metastatic tumor nodule in the contralateral lung. It must have the same histology as the primary tumor and must be documented as metastasis.

## CS Mets at DX

- Code 40
  - Abdominal organs
  - Distant metastasis, NOS
  - Carcinomatosis
- Code 50
  - Distant metastasis + distant nodes
- Code 99
  - Unknown

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Assign code 40 when there is metastasis to abdominal organs, distant metastasis NOS, or carcinomatosis. Distant metastasis except distant lymph nodes and distant metastasis described in codes 35, 37, and 39 is assigned code 40. Code 50 is assigned when there is both distant metastasis as described in codes 35, 37, 39, or 40 and involvement of distant nodes, code 10. Assign code 99 when the status of distant metastasis at diagnosis is unknown, cannot be assessed, or not documented in the patient's record.

# First Course Treatment

## Lung

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The Commission on Cancer is the source of standards for treatment data items, so the reference for the treatment data items discussed in this presentation is *FORDS*, which can be downloaded from [www.facs.org/cancer/](http://www.facs.org/cancer/).

## First Course Treatment

- Intended to affect tumor by
  - Modification
  - Control
  - Removal
  - Destruction
- Includes curative and palliative treatment

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First course treatment is defined in *FORDS 2004*, page 28, as “all methods of treatment recorded in the treatment plan and administered to the patient before disease progression or recurrence.” The intent of treatment is to modify, control, remove, or destroy the tumor. Curative treatment as well as treatment given to control symptoms, alleviate pain, or make the patient more comfortable may also be first course treatment. We will discuss the first course treatment data items the central registry is required to submit to NPCR. Cancer programs approved by the Commission on Cancer (CoC) are required to collect other first course treatment data items as well.

## Surgical Procedure of Primary Site: Lung

- Site-specific codes
  - *FORDS*, pages 264
  - *SEER PCSM 2004*, Appendix C, pages C-393 and C-394

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The codes for surgical procedure of primary site are site-specific and hierarchical. The surgical procedure of primary site codes for lung are found in *FORDS*, page 264, and in *SEER Program Coding and Staging Manual 2004*, Appendix C, pages C-393 and C-394. If more than one procedure is performed as part of first course treatment, code the procedure with the highest code.

## Surgical Procedure of Primary Site: Lung

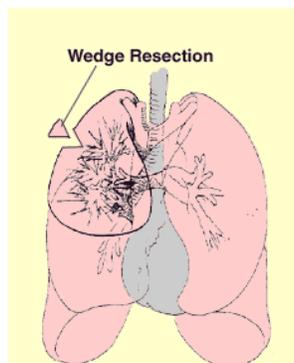
- Code 00
  - None
- Codes 12, 13, 15
  - Local tumor destruction with no pathology specimen
  - Includes laser ablation, cryosurgery, electrocautery, fulguration
- Code 19
  - Local tumor destruction or excision, NOS

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Use code 00 when no surgical procedure of the primary site was performed. Procedures recorded as surgical procedure of primary site destroy or remove tumor. Codes 12, 13, and 15 are used for procedures that destroy the tumor but do not have a pathologic specimen. Laser ablation destroys the tumor with radiation; cryosurgery destroys the tumor by freezing it; electrocautery burns the tumor; and fulguration destroys the tumor with electric sparks generated by high frequency current. If the procedure performed was local tumor destruction or excision and it is unknown if the specimen was sent to pathology or not, use code 19. The code is most often used for cases diagnosed prior to January 1, 2003.

## Surgical Procedure of Primary Site: Lung

- Codes 20–25
  - Excision or resection of less than one lobe with specimen sent to pathology
  - Includes laser excision, bronchial sleeve resection, wedge resection, segmental resection



Use codes 20–25 when only part of one lung lobe is excised or resected and a specimen is sent to pathology. Laser excision uses a laser to excise the segment of lung containing the tumor; bronchial sleeve resection excises a portion of the carina, tracheobronchial angle, and involved lung parenchyma; wedge resection excises a wedge of lung that includes the tumor; and segmental resection excises the segment of the lung that contains the tumor. The diagram shows a wedge resection of the upper lobe of the right lung.

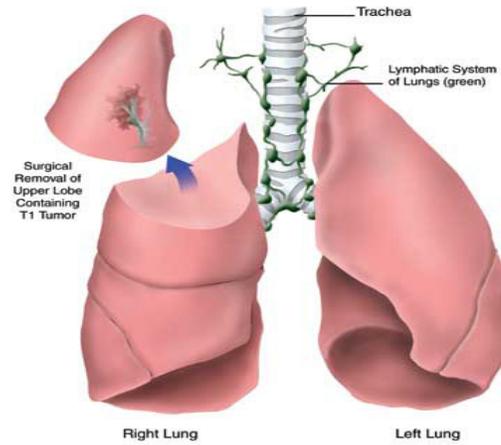
## Surgical Procedure of Primary Site: Lung

- Code 30
  - Resection of lobe or bilobectomy, but less than the whole lung
- Code 33
  - Lobectomy with mediastinal lymph node dissection
    - Mediastinal node dissection should also be coded in Scope of Regional Lymph Node Surgery

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Codes 30 and 33 are used if the patient had a lobectomy or bilobectomy but the entire lung was not removed. Lobectomy is the resection of a single lobe of the lung, and bilobectomy is the resection of two lobes of the lung. Code 30 is assigned if the patient had lobectomy or bilobectomy, and code 33 is assigned if the patient had lobectomy or bilobectomy with dissection of the mediastinal lymph nodes. If code 33 is assigned because lymph node dissection was performed with a lobectomy, the lymph node dissection must also be coded in the data item, scope of regional lymph node surgery. A procedure described as partial pneumonectomy would also be assigned code 30 or 33 depending on whether or not mediastinal lymph node dissection was performed.

# Lobectomy



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This diagram shows a lobectomy. The upper lobe of the right lung was excised. This procedure is assigned code 30. This diagram shows that the lobes of the lung are not divided straight across but are divided diagonally. The upper right lobe that was resected was triangular in shape, not rectangular.

## Surgical Procedure of Primary Site: Lung

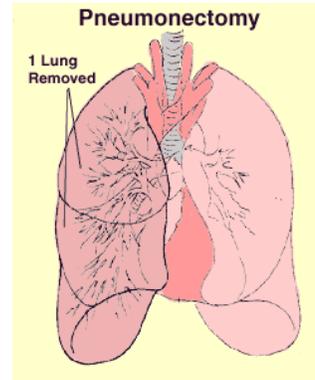
- Code 45
  - Lobectomy or bilobectomy extended, NOS
- Code 46
  - WITH chest wall
- Code 47
  - WITH pericardium
- Code 48
  - WITH diaphragm

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Codes 45–48 are used if the patient had an extended lobectomy or bilobectomy. An extended lobectomy or bilobectomy is the resection of the lung lobe or lobes as well as other tissue outside of the lung. Code 45 is assigned if the other tissue is NOS, code 46 is chest wall, code 47 is pericardium, and code 48 is diaphragm.

## Surgical Procedure of Primary Site: Lung

- Code 55
  - Pneumonectomy, NOS
- Code 56
  - Radical pneumonectomy: pneumonectomy with mediastinal lymph node dissection
    - Code node dissection in Scope of Regional LN Surgery



Assign code 55 if the patient had a pneumonectomy. Pneumonectomy is the resection of the entire lung. Code 56 is used for radical pneumonectomy, which is resection of the entire lung with mediastinal lymph node dissection. The mediastinal lymph node dissection should also be coded in the scope of regional lymph node surgery data item. The diagram at right shows a pneumonectomy.

## Surgical Procedure of Primary Site: Lung

- Code 65
  - Extended pneumonectomy
- Code 66
  - Extended pneumonectomy plus pleura or diaphragm
- Code 70
  - Extended radical pneumonectomy

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Assign code 65 if the procedure performed is extended pneumonectomy. Extended pneumonectomy is resection of the entire lung as well as tissue adjacent to the lung. Code 66 is used when the procedure performed is extended pneumonectomy, and it is specified that the adjacent tissue removed includes the pleura or diaphragm. Code 70 is used when the procedure is an extended radical pneumonectomy. Extended radical pneumonectomy is excision of the entire lung and adjacent tissue with mediastinal node dissection.

## Surgical Procedure of Primary Site: Lung

- Code 80
  - Resection of lung, NOS
- Code 90
  - Surgery, NOS
- Code 99
  - Unknown

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Assign code 80 if the procedure performed is a resection of the lung that is not defined in the lung resection codes 55, 56, 65, 66, or 70. Assign code 90 if a procedure destroying or excising the lung tumor was performed and it is not described in any of the previous surgical procedure of primary site codes for lung. Assign code 99 if it is unknown whether surgery to the primary site was performed.

## Scope of Regional Lymph Node Surgery: Lung

- Code biopsy or aspiration of regional nodes
- Code regional lymph node dissection
  - Code mediastinal lymph node dissection performed with lobectomy or pneumonectomy even though if it is also coded in Surgical Procedure of Primary Site

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If a patient with lung cancer has a biopsy or aspiration of regional lymph nodes, it is coded in the scope of regional lymph node surgery data item. Regional lymph node dissection is also coded in this data item. If a mediastinal lymph node dissection is performed with lobectomy or pneumonectomy, code it in this data item even though it is also coded in the surgical procedure of primary site data item.

## Scope of Regional Lymph Node Surgery Codes

Code	Label
0	None
1	Biopsy or aspiration of regional LNs, NOS
2	Sentinel LN biopsy
3	Number of regional LNs removed unknown
4	1-3 regional LNs removed
5	4 or more regional LNs removed
6	Sentinel biopsy and code 3, 4, or 5 at same time or timing not stated
7	Sentinel biopsy and code 3, 4, or 5 at different times
9	Unknown

The codes for scope of regional lymph node surgery are shown on this slide. The codes are the same for all sites and are hierarchical. If more than one procedure is performed as part of first course treatment, code the procedure with the highest code. If a patient with cancer in the right lung had a biopsy of a hilar lymph node, the code for scope of regional lymph node surgery would be 1, biopsy or aspiration of regional lymph nodes. If the patient had a radical pneumonectomy and the operative report noted that 3 mediastinal lymph nodes were dissected, code 4, 1–3 regional lymph nodes removed, would be recorded for the scope of regional lymph node surgery.

## **Surgical Procedure/Other Site: Lung**

- Record removal of distant lymph nodes or other tissues beyond the primary site
  - Surgical ablation of liver metastasis
  - Resection of cervical lymph node

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If distant lymph nodes or tissues beyond the primary site are removed, the procedure is coded in the data item surgical procedure/other site. Examples for lung cancer include the surgical ablation of liver metastasis or the resection of a cervical lymph node.

## Surgical Procedure/Other Site Codes

Code	Label
0	None
1	Nonprimary surgical procedure performed
2	Nonprimary surgical procedure to other regional sites
3	Nonprimary surgical procedure to distant lymph nodes
4	Nonprimary surgical procedure to distant site
5	Combination of codes
9	Unknown

The codes for surgical procedure/other site are shown on this slide. The codes are the same for all sites and are hierarchical. If more than one procedure is performed as part of first course treatment, code the procedure with the highest code. The surgical ablation of liver metastasis for a lung cancer patient would be assigned code 4, nonprimary surgical procedure to distant site. If a patient with lung cancer had a resection of a cervical lymph node, code 3, nonprimary surgical procedure to distant lymph nodes, would be assigned to surgical procedure/other site.

## Regional Treatment Modality: Lung

- Non-small cell carcinoma and radiation
  - Given as curative treatment for some patients
  - Given as palliative treatment for a larger number of patients
- Codes defined in *FORDS*, pages 155–156

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For patients with inoperable non-small cell carcinoma, radiation may be given as a curative treatment. It is given to larger numbers of non-small cell carcinoma patients as palliative treatment. Radiation to the primary site is not usually part of treatment for small cell carcinoma, but patients who have had a complete clinical response to therapy for small call carcinoma, may receive prophylactic cranial irradiation (PCI). Prophylactic cranial irradiation is not coded as treatment for lung cancer.

# Chemotherapy

- Multi-agent
  - Cisplatin, carboplatin, paclitaxel, docetaxel, topotecan, irinotecan, vinorelbine, gemcitabine
- Non-small cell carcinoma
  - Adjuvant treatment
- Small cell carcinoma
  - Primary treatment
- Codes defined in *FORDS*, pages 171–172

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Chemotherapy may be given as adjuvant therapy after surgery for patients with non-small cell carcinoma. It is usually the primary treatment for patients with small cell carcinoma. In both small cell and non-small cell carcinoma, chemotherapy is almost always multi-agent, two or more drugs. The codes for chemotherapy are defined in *FORDS*, pages 171–172.